WHAT IS CLAIMED IS:

1. A method of adaptive intervention for effecting changes in the cognitive-emotive profile of an individual, comprising the steps of :

Selectively acquiring a plurality of bioelectric signals of the individual; determining a cognitive-emotive profile based on the bioelectric signals; mapping the cognitive-emotive profile onto a set of commands for controllably delivering brain stimulation to the individual.

2. The method of claim 1, wherein the brain stimulation is effected by transcranial magnetic stimulation (TMS).

3. The method of claim 2, wherein the TMS signal can be delivered at one or more sites of the individual' body simultaneously.

4. The method of claim 1, wherein the bioelectric signal is an electroencephalogram (EEG) signal.

5. The method of claim 4, wherein the EEG signal is recorded from multiple recording sites from the scalp of the individual using a portable headset.

6. The method of claim 5, wherein the portable headset includes a matrix of EEG sensors and magnetic field coils oriented over specific areas of the brain of the individual.

7. The method of claim 4, further comprising the decomposition of the EEG signal into a plurality of signal subcomponents including:

Frequency domain subcomponents;

Time domain subcomponents; and

Spatial domain subcomponents.

8. The method of claim 7, wherein the frequency domain subcomponents are selected from a group consisting of a mu rhythm, a theta rhythm, an alpha rhythm, and a beta rhythm.

9. The method of claim 7, wherein the time domain subcomponents are selected from a group consisting of event-related potentials (ERPs) including N1, P3, and steady state visual evoked response (SSVER).

10. The method of claim 7, wherein the spatial domain subcomponents are selected from a group derived from special algorithmic transformation of the EEG signal.

11. The method of claim 10, wherein the processing of the EEG signal involves using one of a group of signal processing algorithms consisting of a variable epoch frequency decomposition (VEFD), a fast Fourier transform (FFT), and independent component analysis (ICA).

12. The method of claim 7, further comprising identifying and classifying feature clusters from the plurality of signal subcomponents.

13. The method of claim 12, further comprising creating a BCI feature map (BFM) from a feature cluster identified through one of a group of transformation algorithms consisting of :

a discriminant optimization analysis;

a wavelet analysis;

a distribution function analysis; and

fuzzy logic.

14. The method of claim 13, further comprising performing real-time pattern recognition on the BFM to produce a set of BCI neural activations (BNAs).

15. The method of claim 1, further comprising dynamically determining a cognitive-emotive profile of the user that reflects changing behavioral states.

16. The method of claim 15, wherein the cognitive-emotive profile is comprised of sensorimotor and psychological states and their boundary conditions.

17. A real time adaptive system for effecting changes in the cognitive-emotive profiles of an individual comprising:

Signal acquisition means for acquiring an electroencephalogram (EEG) signal from the individual;

neurodynamics assessment means for analyzing the EEG signal to establish a cognitive-emotive profile; and

transcranial magnetic stimulation means responsive to the cognitive-emotive profile to controllably deliver brain stimulation to the individual.

18. The real time adaptive system of claim 17, wherein the neurodynamics assessment means comprises means for decomposing the digitized bioelectric signal into a plurality of signal subcomponents.

19. The real time adaptive system of claim 18, wherein the plurality of signal subcomponents comprises:

Frequency domain subcomponents;

time domain subcomponents; and

Spatial domain subcomponents.

20. The real time adaptive system of claim 18, wherein the frequency domain subcomponents are selected from a group consisting of a mu rhythm, a theta rhythm, an alpha rhythm, and a beta rhythm.

21. The real time adaptive system of claim 18, wherein the time domain subcomponents are selected from a group consisting of event-related potentials (ERPs) including N1, P3, and steady state visual evoked response (SSVER).

22. The real time adaptive system of claim 18, wherein the spatial domain subcomponents are selected from a group derived from special transformation of the EEG signal.

23. The real time adaptive system of claim 17, wherein the EEG signal is analyzed by applying one of a group of signal transformation algorithms consisting of a variable epoch frequency decomposition (VEFD), a fast Fourier transform (FFT), and independent component analysis (ICA).

24. The real time adaptive system of claim 17, wherein the EEG signal is analyzed to identify and classify feature clusters from the plurality of signal subcomponents.

25. The real time adaptive system of claim 17, wherein the neurodynamics assessment means create a BCI feature map (BFM) from a feature cluster identified through one of a group of transformation algorithms consisting of :

discriminant optimization analysis;

wavelet analysis;

distribution function analysis; and

fuzzy logic.

26. The real time adaptive system of claim 17, wherein the neurodynamics assessment means perform real-time pattern recognition on the BFM to produce a set of BCI neural activations (BNAs).

27. The real time adaptive system of claim 17, wherein the cognitive-emotive profile comprises sensorimotor (sense awareness), and psychological (mental awareness) states and their boundary conditions.

28. The real time adaptive system of claim 17, which further comprises feedback signal to control the level of TMS being delivered.

29. The real time adaptive system of claim 17, wherein the signal acquisition means comprises a sensor.

30. The real time adaptive system of claim 17, wherein the processor comprises a central processing unit (CPU).

31. The system of claim 17, wherein the processor comprises a software control program.